MOLYBDENUM (Cont'd from page 18)

this malady can be fatal. Injections of copper (1 gram per day) will be needed to save the animal.

6. Most Brassiec crops (cauliflower and broccoli exhibit a deficiency called whiptail which has proven to be molybdenum. All these crops are quite sensitive, not only the lack of molybdenum but the excess too. The New Zealand and Australian soils will vary tremendously as to their molybdenum content and much research has been done in this area.

   In acute forms of whiptail the leaf tissue, except that close to the midrib, dies. Leaves further enlongate and become quite twisted.

   Resistant cultivars have been developed and are extensively used, because they are superior in other respects.

7. Molybdenum is commonly in the soil or supplied by fertilizers as sodium molybdate. The plant uses the molybdate ion of course.

8. The sulfate ion is the same size, charge and weight as the molybdate and frequently the plant, being stupid, cannot distinguish between the two. These two ions compete with each other for absorption sites on the root. If one ion is present in greater amounts it will be more available.

The problem of strapleaf has been studied by several investigators with no positive results has intrigued hibiscus fans for several years. The original question has not been answered by an unqualified yes or no.

The need for molybdenum is greater if a fertilizer containing ammonia (NH_4) as a nitrogen source rather than the nitrate (NO_3) form of nitrogen. What chemical reactions the cells need molybdenum for is still unknown, but its need has been demonstrated.

The function of molybdenum and its competition with

(Next page please)

the sulphate ion which apparently goes on inside the cell too, further complicates the function.

Molybdenum is available as an ion only in a narrow pH range. There is a close relation between soil acidity and availability of molybdenum. In the higher ranges of pH in Florida soils, 6.0-6.7 molybdenum becomes more available to the plant.

Other minor element deficiences will produce deformed organs on the plant. Boron, copper and zinc deficient plants will produce various types of deformities which will be similar to strapleaf.

Strapleaf then is probably the result of a combination of factors.

1. Soil pH
2. Amount of sulphate ion
3. Available nitrogen source
4. Amount of available molybdenum
5. Internal chemical conditions affecting the plants resistance
6. Copper interactions

Strapleaf will develop if the optimum growth conditions for a healthy plant are disturbed. An example of this would be 2,4,D injury, which will cause a strapleaf-like condition.

Prevention is the best method of control. Strapleaf should not develop in a well balanced fertilization and spray program. Soil acidity should be carefully watched. Strapleaf can be corrected by applications of sodium molybdate (3 oz. per acre) or trace elements in the spray or dry form. Liming the soil should also help. Better care for all plants is achieved by maintenance.

-OoO-

"Your husband says he leads a dogs life," said one woman.
"Yes, it's very similar," answered the other. "He comes in with muddy feet, makes himself comfortable by the fire, and waits to be fed."